

What is claimed is:

1. An evacuation system for an offshore unit having at least a portion adapted to be submerged below the water level comprising:
 - 5 - at least one submarine evacuation module attached to the offshore unit, the module comprising:
 - a submarine for transporting personnel to be evacuated; and
 - a watertight submarine bay fixed to the offshore unit for holding the submarine, the bay having a door to permit the
 - 10 - a shaft connecting the submarine bay to a predetermined location on the offshore unit to provide the personnel access to the submarine bay.
2. An evacuation system as claimed in claim 1 wherein the submarine evacuation module is attached to the offshore unit below the water level.
3. An evacuation system as claimed in claim 2 wherein the evacuation module includes means for flooding the submarine bay.
4. An evacuation system as claimed in claim 3 wherein the evacuation module includes means for operating the door.
5. An evacuation system as claimed in claim 4 wherein the evacuation module includes a control system for operating the flooding means and the door
- 25 operating means in sequence.
6. An evacuation system as claimed in claim 5 wherein the evacuation module includes a dry entry tube for connecting a universal mating system hatch on the submarine to a hatch on a wall of the submarine bay.
- 30 7. An evacuation system as claimed in claim 6 wherein the dry entry tube is adapted to provide a watertight passage from the submarine bay hatch to the universal mating system submarine hatch.
8. An evacuation system as claimed in claim 7 wherein the dry entry tube is made from flexible material.
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- 5 9. An evacuation system as claimed in claim 5 wherein the universal mating system hatch includes a switch for activating the control system.
10. An evacuation system as claimed in claim 4 wherein the evacuation module includes a hook mechanism for coupling the submarine to the submarine bay.
- 10 11. An evacuation system as claimed in claim 10 wherein the evacuation module includes a control system for operating the flooding means, the door operating means and a release means for the hook mechanism in sequence.
- 15 12. An evacuation system as claimed in claim 11 wherein the control system includes hydraulic, electrical and mechanical systems.
13. An evacuation system as claimed in claim 11 wherein the evacuation module includes a sonar system for detecting obstructions near the bay door outside of the bay.
- 20 14. An evacuation system as claimed in claim 1 wherein the submarine bay has doors at both ends.
- 25 15. An evacuation system as claimed in claim 2 wherein the evacuation module is located within a pontoon of a semi-submersible offshore unit.
16. An evacuation system as claimed in claim 2 wherein the evacuation module is located above a pontoon of a semi-submersible offshore unit.
- 30 17. An evacuation system as claimed in claim 2 wherein the evacuation module is located within a hold of a vessel offshore unit.
18. An evacuation system as claimed in claim 17 wherein the evacuation module is adapted to launch the submarine onto the surface of the water.
- 35 19. A submarine evacuation module for attachment to an offshore unit for

evacuating personnel from the unit comprising:

- a submarine for transporting personnel to be evacuated; and
- a watertight submarine bay adapted to be fixed to the offshore unit below the water level for holding the submarine, the bay having a door to permit the launch of the submarine from the bay.

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20. A submarine evacuation module as claimed in claim 19 wherein the bay includes a hook mechanism for coupling the submarine to the submarine bay.

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21. A submarine evacuation module as claimed in claim 20 wherein the bay includes a roller system within the bay for cradling the submarine and guiding its movement into and out of the bay.

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22. A submarine evacuation module as claimed in claim 21 wherein the bay includes means for flooding the submarine bay.

23. A submarine evacuation module as claimed in claim 22 wherein the bay includes means for operating the door.

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24. A submarine evacuation module as claimed in claim 23 wherein the bay includes release means for the hook mechanism.

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25. A submarine evacuation module as claimed in claim 24 wherein the bay includes a control system for operating the flooding means, the door operating means and the release means for the hook mechanism in sequence.

26. A submarine evacuation module as claimed in claim 25 wherein the control system includes hydraulic, electrical and mechanical systems.

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27. A submarine evacuation module as claimed in claim 25 wherein the bay includes a sonar system for detecting obstructions near the bay door outside of the bay.

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28. A submarine evacuation module as claimed in claim 20 wherein the submarine includes connector means for coupling the submarine to the hook mechanism.

29. A submarine evacuation module as claimed in claim 28 wherein the connector means includes a u-bolt adapted to be sheared from within the submarine.
- 5 30. A submarine evacuation module as claimed in claim 29 wherein the submarine includes a control system for operating the flooding means and the door operating means.
- 10 31. An submarine evacuation module as claimed in claim 19 wherein the submarine bay has doors at both ends.
32. A submarine evacuation module as claimed in claim 29 wherein the submarine includes motor means for propelling the submarine.
- 15 33. A method of evacuating personnel from an offshore unit having a portion adapted to be submerged below the water level, wherein the offshore unit includes at least one submarine module having a submarine held within a watertight submarine bay, comprising:
- a. having the personnel enter the submarine;
 - b. flooding the bay;
 - 20 c. opening a door in the submarine bay; and
 - d. propelling the submarine from the bay to a predetermined location remote from the offshore unit.
- 25 34. A method of evacuating personnel from an offshore unit as claimed in claim 33, which includes the step of releasing the submarine from the submarine bay.
- 30 35. A method of evacuating personnel from an offshore unit as claimed in claim 33, which includes the step of releasing the submarine from the submarine bay after step c..
36. A method of evacuating personnel from an offshore unit as claimed in claim 33 wherein step.a. includes:
- a.1. having the personnel gather at a muster station;
 - 35 a.2. counting the personnel gathered;
 - a.3. checking the submarine; and

a.4 having the personnel enter the submarine.

37. A method of evacuating personnel from an offshore unit as claimed in claim 33 wherein step a. includes:

- 5 a.1. having the personnel gather at a muster station on a deck of the offshore unit;
- a.2. counting the personnel gathered;
- a.3. having the personnel proceed to a muster station at the submarine bay;
- a.4. counting the personnel at the submarine bay muster station;
- 10 a.5. checking the submarine; and
- a.6. having the personnel enter the submarine.

38. A method of evacuating personnel from an offshore unit as claimed in claim 37 wherein step a.6. is taken after a final evacuation order is given.